REMARKS

Reconsideration and allowance in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1-14 remain pending in the application. Claims 1-7 and 9-13 have been amended to better define the claimed subject matter.

Claims 1-7 are objected to because of the noted informalities. In response, claim 1 and some independent claims have been amended. For example, amended claim 1 is directed to a device for 2D topographic map display for aircraft, the device comprising: "means for extracting a map from a topographic database…", which improved the claim language to easily read. Withdrawal of the objection is respectfully requested.

Claims 1-14 are rejected under 35 USC 112, second paragraph, as being indefinite. Claims 1-14 are rejected under 35 USC 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. In response, several claims have been amended. In particular, claim 1 has been amended to recite "means for extracting a map from a topographic database, said map being formed from a projection on a horizontal terrain strata of a region overflown, corresponding to terrain sections with a mainly horizontal profile, wherein the terrain sections with the mainly horizontal profile are referenced with respect to a safety altitude MSA_{EDGE} that is greater than that of a highest surrounding relief." The claim amendment is believed to overcome the rejection. Therefore, the rejections of claims 1-14 should be withdrawn.

Claims 1-7 are rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. Applicant respectfully traverses this rejection. Amended claim 1 is directed to "a device for 2D topographic map display for aircraft, comprising means for extracting a map from a topographic database…" The claimed subject matter is directed to one of the four statutory categories, i.e., apparatus. Therefore, this rejection should be withdrawn.

Claims 1-7 are rejected under 35 USC 102(b) as being anticipated by Conner et al., (US 6292721). Applicant respectfully traverses this rejection for the reasons discussed below.

An embodiment according to the present invention pertains to topographic map display onboard aircraft, in particular onboard aircraft equipped with ground proximity warning systems displaying, on the instrument panel, visual alarms pinpointing on a map the reliefs and obstacles on the ground considered to be threatening.

A ground proximity warning systems of TAWS type monitor the penetration of the relief or of an obstacle on the ground in one or more protection volumes related to the aircraft and extending in front of and below the aircraft. Customarily, a ground proximity warning system of TAWS type displays a map of risks of collision only when a risk of collision with the ground is possible, that is to say below a certain flight altitude, in general 2000 feet. Above, it does not display anything although a map of the relief of the region overflown would be useful to the crew of the aircraft in certain circumstances, for example should it be necessary to rapidly lose altitude following a depressurization.

Claim 1 is directed to a device for 2D topographic map display for aircraft, extracting a map from a topographic database,the map is formed from a projection of a horizontal terrain strata of the region overflown, corresponding to terrain sections with mainly horizontal profile, wherein the terrain sections with a mainly horizontal profile are referenced with respect to a safety altitude MSA_{EDGE} that is greater than that of a highest surrounding relief.

The embodiment as exemplified in the specification displays a stack of terrain strata at low altitudes just like altitudes higher than 2000 feet. The terrain sections are referenced with respect to a same absolute reference whichever the altitude the aircraft is flying.

Applicant respectfully submits that Conner fails to disclose that the terrain sections with mainly horizontal profile are referenced with respect to a safety altitude MSA_{EDGE} that is greater than that of the highest surrounding relief.

Instead, Conner discloses two display modes of the terrain sections. A first mode when the aircraft is flying higher than a high altitude, for example 2000 feet, and a second mode when the aircraft is flying below 2000 feet.

Regarding display of a stack of terrain strata in high altitude flight's conditions, in columns 33-35 of Conner, Conner discloses a terrain information system or "Peaks" mode available to provide a contoured display of terrain below the aircraft. The display provides the flight crew with means of assessing the potential terrain conflicts which might occur if a rapid descent is initiated from the aircraft's normal flight path. In previous solutions, terrain display of the terrain advisory and warning systems normally do not display terrain more than 2000 feet below the aircraft, these system would generally not be available for planning a rapid descent from a relatively altitude.

Conner discloses a system whereby a pilot can select a display of the terrain below and ahead of the aircraft regardless of the aircraft's current altitude. The terrain display algorithm, which is described in detail in connection with FIG.47 of Conner, locates the highest and the lowest points of the terrain within the range of the scan and, using these values as bounds, divides the intermediate terrain elevations into n layers or terrain contours. In the preferred embodiment according to the present invention, there will normally be up to six layers (0-5) displayed on the display 402.

Thus, the Conner terrain sections with mainly horizontal profile are not referenced with respect to an absolute altitude that is greater than that of the highest surrounding relief but are referenced with respect to the highest and lowest points of the terrain.

Further, regarding display of a stack of terrain strata in low altitude flight's conditions, in columns 24 and 25 and Fig. 25 of Conner, the terrain background information is shown on the display 402. The elevation of the highest terrain relative to the altitude of the aircraft is shown as a series of dot patterns whose density varies as a function of the distance between the aircraft and the terrain. For example, a relatively dense dot pattern 432 may be used to indicate terrain that is, for example, 500 feet or less below the aircraft. A medium dense dot pattern 434 may be used to represent terrain that is 1000 feet or less below the

aircraft, while a lightly dotted pattern 436 may be used to indicate terrain 2000 feet or less below the aircraft. In order to declutter the display 402, terrain, for example, more than 2000 feet below the aircraft, is not shown.

Thus, the Conner terrain sections with a mainly horizontal profile are not referenced with respect to a safety altitude MSA_{EDGE} that is greater than that of the highest surrounding relief, but are referenced with respect to an altitude relative to the aircraft position.

Even the terrain advisory and warning zone are referenced with respect to the aircraft position. In Fig.26 of Conner, terrain advisory and terrain warning indications are displayed in solid shapes 440 and 442, respectively, for example, "squares"; the displayed terrain map cells which represent a threat painted solid yellow or red.

Fig.7 -8 of Conner disclosed that advisory and warning zones are referenced with respect to an altitude that is greater than the highest surrounding relief but this altitude is relative to the position of the aircraft and is not an absolute altitude (a safety altitude MSA_{EDGE}). When the aircraft is below the highest surroundings, as in Figs. 9 and 10, the advisory and warning zones are referenced to an altitude that is lower than the highest surrounding.

Consequently, Conner did not disclose the claim 1 for the following reasons:

In the first display mode, the terrain sections are referenced with respect to the highest and lowest points of the terrain within the range of the scan. Thus, the absolute altitude can not be greater than the highest surrounding relief.

In the second display mode, the terrain sections are referenced with respect to the aircraft position. Thus, this is a relative altitude and not an absolute altitude (a safety altitude MSA_{EDGE}).

Therefore, for at least the reasons above, claim 1 is believed to distinguish over the applied art. This rejection should be withdrawn.

Independent claims 2-14 are dependent on claim 1 and should be patentable for the reasons advanced with respect to claim 1. The rejections of the dependent claims should also be withdrawn.

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited.

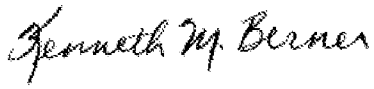
Early issuance of a Notice of Allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN HAM & BERNER, LLP



Kenneth M. Berner
Registration No. 37,093

1700 Diagonal Road, Suite 300
Alexandria, Virginia 22314
(703) 684-1111
(703) 518-5499 Facsimile
Date: September 11, 2009
KMB/CHY/cac